SHIP and SYSTEM

EMC CERTIFICATION

Shipboard Systems Certification Requirements for Surface Ship Industrial Periods

NAVSEA CERTIFICATI
ON MANUAL CHANGE

SHIP EMC CERTIFICATION

SHIP EMC CERTIFICATION REQUIREMENTS

- Ship EMC Certification testing by NAVSEA 623 is required for all SCN ships to establish an EMC baseline. Subsequent Ship EMC Certifications will be accomplished:

  - For deployers after Target Configuration Date (TCD), typically 6 months prior to deployment.
  - Following industrial availabilities greater than 120 days.
  - Every three years for non-deployers

SHIP EMC CERTIFICATION CRITERIA

- **Are all available EMI fixes installed?**
  - **STD DWG 1780 provides visual inspection procedures**
- **Are all uncorrected mission degrading EMI problems identified and reported to the CO.**
  - **STD DWG 1780 provides recognition test procedures**
- **Is HF IMI level detected 19th order and below?**
  - **STD DWG 1780 provides IMI test procedures for the various HF transmission systems installed**

SHIP EMC CERTIFICATION FUNDING

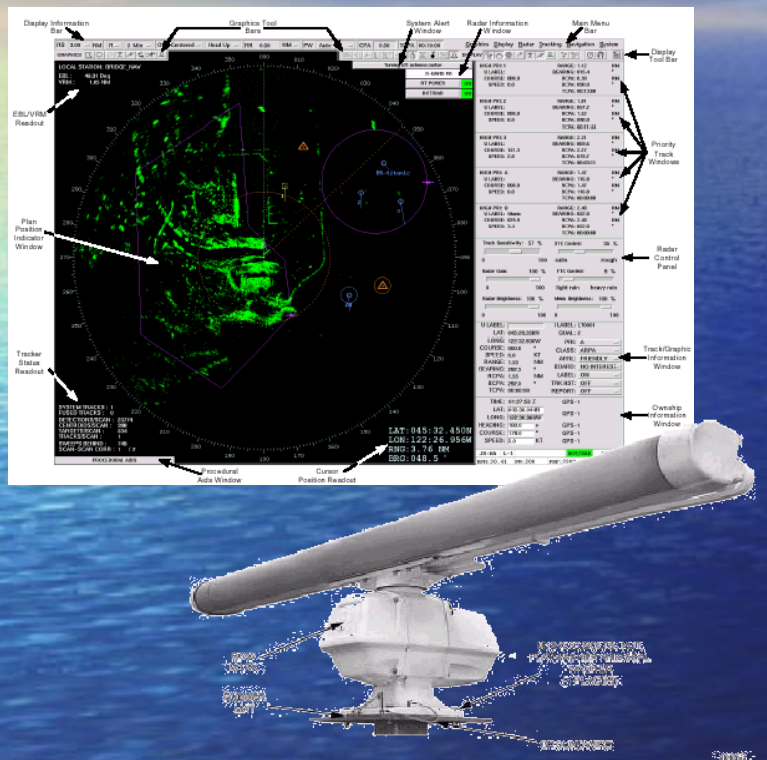
- **Ship Program Manager (SPM)** for new construction ships and major availabilities (i.e. RCOH)

- **Type Commander (TYCOM)** for in-service ships
  - Considered a maintenance certification
  - Can use SIMA or FTSC (C5RA)

SHIP EMC CERTIFICATION EXECUTION

- **REFERENCES**
  - **NAVSEA S9040-AA-GTP-010/SSCR, Revision 4, Shipboard Systems Certification Requirements for Surface Ship Industrial Periods (Non-Nuclear), 01 Jan 1998**
    - **NAVSEA ltr Ser 63/0358 of 15 Jan 03 promulgated Change 1 to Revision 4**
  - **NAVSEA DWG STD 407-5291780(V), Standard Electromagnetic Interference (EMI) Survey Procedures, Volume 1**
    - **Nuts and Bolts**
    - **Latest version in STAN**

SYSTEM EMC CERTIFICATION



SYSTEM EMC CERTIFICATION REQUIREMENTS

- New electrical/electronic systems installed by:
  - SHIPALT
  - AER
  - TIA
  - Other alterations
- NAVSEA 623 test team will test first two ships of class, flight or baseline

SYSTEM EMC CERTIFICATION REQUIREMENTS (Cont)

- Subsequent testing can be done by:
  - PARM
  - SPM
  - NSA
  - FTSC
  - IMA
  - Contractor witnessed by government activity
- Test procedures for 3rd and follow-on ships will be available in STAN

SYSTEM EMC CERTIFICATION CRITERIA

- Does the system have an approved frequency allocation (Stage 4 JF-12)?
  - Applicable to both transmit and receive systems
- Has the system been tested and is neither the source nor victim of mission-degrading EMI?
  - First two installations
    - Establish criteria
      - Identify potential source-victim pairs
      - Quantify EMI level
    - Is the EMI mission-degrading?

SYSTEM EMC CERTIFICATION CRITERIA (Cont)

- Fix problems discovered
  - Perform on-the-spot correction if possible
  - Engineer an EMI fix
- Follow-on ships
- Test IAW test procedures in STAN
  - Test procedures developed from testing first two ships

- Are appropriate system EMI fixes installed?
  - Normally related to follow-on systems
  - Procure and install required EMI fixes for source/victim

SYSTEM EMC CERTIFICATION FUNDING

- Funding for System EMC Certification is provided by:
  - PARM (Program Acquisition Resource Manager)
  - Activity sponsoring the system installation

SYSTEM EMC CERTIFICATION EXECUTION

- **REFERENCES**
  - **COMNAVSEASYSCOM WASHINGTON DC 251530Z APR 2003**
    - **Implements System EMC Certification**
  - **NAVSEA S9040-AA-GTP-010/SSCR Shipboard Systems Certification Requirements for Surface Ship Industrial Periods**
    - **System EMC Certification is in Change 1 Revision 4**
  - **NAVSEA DWG STD 407-5291780 (v) Standard Electromagnetic Interference (EMI) Procedures, Vol 1**
    - **Latest version in STAN**

SHIP/SYSTEM EMC CERTIFICATION FOLLOW-ON ACTIONS

- UPDATE/WRITE GOVERNING INSTRUCTIONS
  - NAVSEA DWG STD 407-5291780(V), STANDARD ELECTROMAGNETIC INTERFERENCE (EMI) SURVEY PROCEDURES (VOLUME 1)
  - CLF/CPF INST 4790.3 (JFMM) (Submitted 15 Jan 03)
  - GSO (Section 406)
  - MIL-STD 1605
  - MIL-STD 1310